An Evaluation of the Generic Assignment of Some American Pentatomini (Hemiptera:Pentatomidae)

L. H. Rolston

Department of Entomology, Louisiana State University, Baton Rouge, Louisiana 70803

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Abstract: Type specimens representing some of the binomina proposed by Dallas, Distant, Walker and Westwood for Pentatomini from the Americas were examined for generic placement. These names are listed and synonymy or generic misplacement noted where recognized. The following new combinations are proposed: *Acrosternum grave* (Walker) from *Nezara*; *Acrosternum montivagum* (Distant) from *Chlorochroa*; *Acrosternum scutellatum* (Distant) from *Nezara*; *Acrosternum sparnium* (Dallas) from *Nezara*; *Banasa parvula* (Dallas) from *Thyanta*; *Chloropepla luteipennis* (Westwood) from *Loxa*; *Rio politulus* (Distant) from *Holcostethus*; *Tibilis fulvicornis* (Walker) from *Brachystethus*; and *Tibilis piceola* (Walker) from *Brachystethus*.

The following new synonymy was recognized: *Acrosternum montivagum* (Distant) = *Nezara majuscula* Distant; *Chloropepla vigens* (Stål) = *Dichelops pulchricornis* (Walker); *Euschistus integer* Stål = *Trichopepla dubia* Distant; *Mayrinia curvidens* (Mayr) = *Dichelops mutabilis* (Walker); *Mormidea cubrosa* (Dallas) = *Mormidea punctifer* (Walker); *Oebalus poecilus* (Dallas) = *Mormidea prominula* Dallas; *Pharypia generosa* Stål = *Arocera nigropicta* (Walker); *Placocoris viridus* Mayr = *Mentisa smaragdina* Walker; *Thyanta antiguensis* (Westwood) = *Crato urbicus* Distant; *Thyanta* Stål = *Crato* Distant.

The generic placement of *Padeaus bovillus* Distant is incorrect and that of *Pellaea panamensis* (Distant) is suspect, but new combinations are not proposed for these species.

A lectotype and paralectotype(s) are designated where synonymy involves syntypes.

The types of most species described by Westwood, Dallas, Walker and Distant have been reexamined previously and the generic placement of the species has been changed as necessary to correct errors in assignment or to reflect refinement in classification. This has not been done recently, or at least the results have not been published, for many pentatomids from the Americas and consequently some applicable material has been missed in generic revisions.

There follows a list of some of the names proposed by the above authors

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for American species of Pentatomini. Each of these species seems to have been placed, either originally or subsequently, in the correct genus, as the genus is now understood. Many of the species belong in genera which need revision, and some of the names may not be valid. Subsequent to this list, new combinations and new synonymy are proposed and cases of doubtful generic placement are discussed. Lectotypes and paralectotypes are designated when new synonymy involves syntypes. One of these usually bears a "type" label even though the author did not designate a holotype and no lectotype has been designated previously.

I have examined all of the extant type material known upon which the names listed or discussed here are based. That of Westwood is in the University Museum, Oxford, and that of Dallas, Walker and Distant is in the British Museum (Natural History), London.

Correctly Placed Species

Aelia americana Dallas
Acrosternum dallasi (Distant)[1]
Acrosternum geniculatum (Dallas)[2]
Acrosternum nitidum (Westwood)[2]
Arocera affinis Distant
Arocera altivolta Distant
Arocera apta (Walker)
Arocera chiriquensis Distant
Arocera jalapensis Distant
Arocera nigrorubra (Dallas)
Arocera patibulata Distant
Arocera placens (Walker)
Arocera protea Distant
Arocera rufifrons (Dallas)
Arocera schumanni Distant
Banasa antica (Dallas)
Banasa discolor (Dallas)
Banasa inopinata (Walker)
Banasa salvini Distant
Banasa stalii Distant
Banasa stigmosa Distant
Boea auriflua Walker
Boea costaricensis Distant
Boea postica Walker
Boea purpurascens Walker
Brachystethus discolor (Walker)
Brachystethus rubromaculatus Dallas
Capivaccius bufo Distant
Chlorocoris aberrans Distant
Chlorocoris championi Distant
Chlorocoris hebetatus Distant
Chlorocoris irroratus Distant
Chlorocoris rubescens Walker
Chlorocoris rufispinus Dallas
Chlorocoris rufopictus Walker
Chlorocoris usitatus Distant
Cosmopepla binotata Distant
Cosmopepla conspicillaris (Dallas)
Dichelops bicolor Distant
Dichelops divisus (Walker)
Dichelops leucostigmus (Dallas)
Dichelops melacanthus (Dallas)
Disderia decorata (Distant)
Euschistus acuminatus Walker
Euschistus cornutus Dallas
Euschistus latus (Dallas)
Euschistus thoracicus Dallas
Evoplitus humeralis (Westwood)
Fecelia nigridens (Walker)
Loxa affinis Dallas

[1] Catalogued by Kirkaldy (1909) under *Nezara* subgenus *Acrosternum*, this combination is implicit in the acceptance of *Acrosternum* as a genus by Bergroth (1914) and subsequent revisors of *Nezara* and related genera.

[2] Bergroth (1914) implicitly provided new binomina for those American species catalogued by Kirkaldy (1909) under the nominate subgenus of *Nezara* when he wrote: "To *Acrosternum* belong . . . all American species wrongly placed by Kirkaldy (Cat. p. 117–118) in the 'typical subgenus' of *Nezara* (except *viridula*)."

Loxa deducta Walker
Mecocephala acuminata Dallas
Mormidea collaris Dallas
Mormidea cubrosa (Dallas)
Mormidea maculata Dallas
Mormidea pulchella Walker
Mormidea scutellata (Westwood)
Mormidea tetra Walker
Murgantia simulans Distant
Murgantia varicolor (Westwood)
Murgantia violascens (Westwood)
Pallantia macula (Dallas)
Pellaea canadens (Distant)
Pellaea sticta (Dallas)
Piezodorus guildinii (Westwood)
Runibia decorata (Dallas)
Runibia euopta (Walker)
Runibia proxima (Dallas)
Sibaria armata (Dallas)
Taurocera abruptus (Walker)
Thyanta antiguensis (Westwood)
Thyanta obsoleta (Dallas)
Thyanta testacea (Dallas)

New Combinations and New Synonymy

Acrosternum grave (Walker) NEW COMBINATION.

Strachia gravis Walker, 1867, Cat. Het. 2:322.
Nezara gravis; Kirkaldy, 1909, Cat. Hem. 1:121.

Acrosternum montivagum (Distant). NEW COMBINATION.

Chlorochroa montivaga Distant, 1890, Biol. Cent. Am., Rh. 1:333, Pl. 31, fig. 13.
Nezara majuscula Distant, 1890, Biol. Cent. Am., Rh. 1:339, Pl. 31, fig. 20. NEW SYNONYMY.

The following specimen of *Nezara majuscula* is designated LECTOTYPE: ♀, labeled (a) Type. (b) Xautipa, Guerrero, H. H. Smith. (c) Distant Coll. 1911–383. PARALECTOTYPE: ♀, labeled (a) *majuscula* Dist. (b) Panama, Boucard. (c) Distant Coll. 1911–383.

The type specimens were compared. Aside from sexual differences the type of *C. montivaga*, a male, differs from the types of *N. majuscula* in being somewhat darker due apparently to an exudation of fat, in the obscurity of the dot in each basal angle of the scutellum, and in having the juga just contiguous at the apex of the head. The black scutellar dots usually present in this species are obscure or absent in some specimens, and the degree to which the juga converge also varies, rarely becoming contiguous or nearly so. The ostiolar ruga is unusually short for the genus, extending only about halfway from the inner boundary of the ostiole to the lateral margin of the metapleuron, and in this and other critical characters the three specimens agree.

Acrosternum scutellatum (Distant). NEW COMBINATION.

Nezara scutellata Distant, 1890, Biol. Cent. Am., Rh. 1:339, Pl. 31, fig. 21; Kirkaldy, 1909, Cat. Hem. 1:121.

Acrosternum sparnium (Dallas). NEW COMBINATION.

Rhaphigaster sparnius Dallas, 1851, List. Hem. 1:280.
Nezara sparnius; Kirkaldy, 1909, Cat. Hem. 1:121.

Banasa parvula (Dallas). NEW COMBINATION.

Rhaphigaster parvulus Dallas, 1851, List. Hem. 1:279.
Thyanta parvula; Distant, 1900, Ann. Mag. Nat. Hist. (7) 5:390.

The median tubercle at the base of the abdomen removes this species from *Thyanta*. The metasternum was destroyed in pinning, but other characters are those of *Banasa*.

Chloropepla luteipennis (Westwood). NEW COMBINATION.

Pentatoma luteipennis Westwood, 1837, Cat. Hope 1:40.
Loxa luteipennis; Distant, 1900, Proc. Zool. Soc. London:821.

The long tapering ostiolar rugae place this species in *Chloropepla* rather than *Loxa*. From *C. vigens* it seems to differ in its larger size, less convex posterior sternites and more rounded posteromesial angles of the basal plates.

Chloropepla vigens (Stål, 1860).

Diceraeus pulchricornis Walker, 1867, Cat. Het. 2:250. NEW SYNONYMY.
Dichelops pulchricornis; Distant, 1900, Ann. Mag. Nat. Hist. (7) 5:431.

Walker's type agrees with the verbal description of *C. vigens* given by Grazia (1968).

Euschistus integer Stål, 1872

Trichopepla dubia Distant, 1890, Biol. Cent. Am., Rh. 1:333, Pl. 31, fig. 14. NEW SYNONYMY.

The following specimen of *Trichopepla dubia* is designated LECTOTYPE: ♂, labeled (a) Type. (b) Tepetlapa, Guerrero, 3000 ft., Oct., H. H. Smith. (c) B. C. A. Hem. I, *Trichopepla dubia*. (d) Brit. Mus. Type No. Hem. 977. PARALECTOTYPES: ♀, labeled (a) Ventanas, Mex., 2000 ft., Forrer. (b) B. C. A. Hem. I, *Trichopepla dubia*; ♂, labeled (a) as above (b) Distant Coll. 1911–383; ♂, labeled (a) *dubia* Dist. (b) Cuernavaca, Morelos, June, H. H. S.; ♀, same data.

Distant's specimens are ordinary examples of this species except that the one paralectotype whose pygophore was dissected is aberrant in lacking median penal lobes. The other male that was dissected proved normal in this respect. The latter specimen, labeled (a) B. C. A. Hem. I, Chilpancingo, Guerrero, 4600 ft., June, H. H. Smith. (b) B. C. A. Hem. I, *Trichopepla dubia* (the name in Distant's handwriting), was probably among those specimens upon which Distant based his description, but it is excluded from the paralectotypes because this locality was not mentioned in conjunction with the description.

Mayrinia curvidens (Mayr, 1864)

Diceraeus mutabilis Walker, 1867, Cat. Het. 2:250. NEW SYNONYMY.
Dichelops mutabilis; Distant, 1900, Ann. Mag. Nat. Hist. (7) 5:431.

The following specimen of *Diceraeus mutabilis* is designated LECTOTYPE: ♂, labeled (a) Type. (b) Tejuca, Jan^{y} 1857, H. Clark. (c) *Diceraeus mutabilis* (d) Brit. Mus. Type No. Hem. 1054. PARALECTOTYPES: ♂, 3 ♀♀ all labeled (a) Constancia, Jan^{y} 1857, H. Clark. (b) *Diceraeus mutabilis*, Walker's catal.; ♀, labeled (a) Petropolis Feb^{y} 1857, J. Gray. (b) *Diceraeus mutabilis*, Walker's catal.

Walker's types were compared to the holotype of *Loxa fryi* Distant, which Horvath (1925) placed in the synonymy of *Mayrinia curvidens*. They agree with the description of *M. curvidens* given by Grazia-Vieira (1972) in her revision of *Mayrinia*.

Mormidea cubrosa (Dallas)

Pentatoma cubrosa (Dallas), 1851, List. Hem. 1:247.
Eysarcoris punctifer Walker, 1867, Cat. Het. 2:274. NEW SYNONYMY.
Mormidea punctifer; Distant, 1899, Ann. Mag. Nat. Hist. (7) 4:437.

The holotypes of these species, both females, were compared and are essentially identical.

Oebalus poecilus (Dallas)

Mormidea poecila Dallas, 1851, List. Hem. 1:213 (type apparently lost).
Mormidea prominula Dallas, 1851, List. Hem. 1:213. NEW SYNONYMY.

This species is removed from *Mormidea* by the relative length of the first rostral segment and bucculae, these terminating together at the base of the head. The type of *M. prominula*, a female, has immaculate posterior femora and in this respect agrees with *Oebalus ornatus*. Most but not all specimens of *O. poecilus* have a conspicuous dark dot at the base of many femoral setae, an observation used by Sailer (1949) to distinguish females of this species from those of *O. ornatus*. The convexity of the basal plates (first gonocoxae) usually differ subtly in *O. ornatus* and *O. poecilus*, those of the latter species being slightly impressed near the lateral angle. On this basis *M. prominula* is placed in the synonymy of *O. poecilus*.

Pharypia generosa Stål, 1864

Strachia nigropicta Walker, 1867, Cat. Het. 2:318. NEW SYNONYMY.
Arocera nigropicta; Distant, 1900, Ann. Mag. Nat. Hist. (7) 5:431.

The median tubercle at the base of the abdomen and the form of the metasternum are contrary to the generic characters of *Arocera*. Stål's type was compared to a syntype of Walker's species and the two seem conspecific.

The following specimen of *Strachia nigropicta* is designated LECTOTYPE: ♂, labeled (a) Type. (b) Bras. Tapayos (upper surface) 53, 27 (lower surface). (c) *Strachia nigropicta*. PARALECTOTYPE: ♂, labeled (a) Santarem (b) *nigropicta* Stål (c) *Strachia nigropicta*, Walker's catal.

Placocoris viridus Mayr, 1864

Mentisa smaragdina Walker, 1868, Cat. Het. 3:537. NEW SYNONYMY.

China (1960) noted that Walker's specimen is a pentatomid, not a cydnid as Walker thought. The carded type agrees with the description given by Kormilev (1949) of Mayr's species.

Rio politulus (Distant). NEW COMBINATION.

Peribalus politulus Distant, 1893, Biol. Cent. Am., Rh. 1:457.
Holcostethus politulus; Kirkaldy, 1909, Cat. Hem. 1:48.

This species agrees in all respects with the generic definition set forth by Ruckes (1960) in establishing the genus *Rio*.

Thyanta antiguensis (Westwood)

Pentatoma antiguensis Westwood, 1837, Cat. Hope 1:36.
Crato urbicus Distant, 1893, Biol. Cent. Am., Rh. 1:457, Pl. 39, fig. 22. NEW SYNONYMY.
Thyanta antiguensis; Distant, 1900, Proc. Zool. Soc. London:812.

Distant's type is carded, but the genitalia of the male holotype are clearly presented and leave no doubt as to the identity of the specimen. The monotypic genus *Crato* Distant, 1893, becomes a synonym of *Thyanta* Stål, 1862.

Tibilis fulvicornis (Walker). NEW COMBINATION.

Rhaphigaster fulvicornis Walker, 1867, Cat. Het. 2:361.
Brachystethus fulvicornis; Distant, 1900, Ann. Mag. Nat. Hist. (7) 5:428.

The flat pentagonal metasternum, produced to form a nearly continuous profile with the abdominal spine and mesosternal carina, together with the rostral characters place this and the following species in *Tibilis*.

Tibilis piceola (Walker). NEW COMBINATION.

Brachystethus piceolus Walker, 1868, Cat. Het. 3:456.

Species Incorrectly or Questionably Placed, Not Reassigned

Padaeus bovillus Distant

Padaeus bovillus Distant, 1900, Trans. Entomol. Soc. London:689.

The arcuately truncate termination of the bucculae well before the distal end of the first rostral segment removes this species from *Padaeus*. It is probably near *Mormidea*, but reclassification would be venturesome until more is known of the species, of which the male is unknown.

Pellaea panamensis (Distant)

Nezara panamensis Distant, 1890, Biol. Cent. Am., Rh. 1:339. Pl. 32, fig. 1.

The type lacks the calloused rugosities on the dorsum that are characteristic of *Pellaea*. No other specimen of this form is known and it is possible that the female type represents an aberrant example of an *Acrosternum*.

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